

# RESTONL GCB: Restore Database Incremental from Online Source

From a database SAVE dataset created while the Adabas nucleus was *active*, the RESTONL GCB function restores

- the general control block (GCB);
- Associator RABNs 2-30 of the database;
- the checkpoint file;
- the security file (if present); and
- all files specified with the FILES parameter.


## Notes:

1. An interrupted RESTONL GCB operation must be reexecuted from the beginning. If the interruption occurred while RESTONL GCB was restoring the PLOG, the restore operation can be completed using the RESTPLOG function. Until successful completion or reexecution of the restore operation, the database is inaccessible.
2. If the ADASAV RESTONL GCB job control contains the DD names, symbolic names, or link names for DD/WORKnn, these datasets are reset.

This chapter covers the following topics:

- Conditions
  - Result
  - Syntax
  - Optional Parameters and Subparameters
  - Examples
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## Conditions

 **To use the RESTONL GCB function, the following conditions must be met:**

1. The correct SAVE dataset must be supplied. It must have been created by an online database SAVE operation with the same version of Adabas as is used for the RESTONL and must contain the file(s) to be restored.
2. The output database must have the same physical layout (device types, extent sizes) as the original database. The Associator and Data Storage datasets must be present and must have been previously formatted. The SAVE dataset to be restored may have originated from this or from a different database.

3. No Adabas nucleus may be active on the output database or on a database with the DBID of the output database.
4. The protection log (PLOG) dataset containing information written by the nucleus session at the time of the SAVE operation (see output of SAVE run) must be supplied. PLOG datasets from other sessions may also be included.
5. If the SAVE operation was performed with the DRIVES parameter, the SAVE datasets created can also be restored with the DRIVES parameter. In that case, the restore operation is performed from the different SAVE datasets in parallel. Alternatively, the SAVE datasets can be concatenated to a single SAVE dataset for a restore operation without the DRIVES parameter.
6. For restoring just a few files from a multivolume database SAVE dataset, only those tape volumes that actually contain data of the files to be restored need to be supplied in the ADASAV job control. The job protocol of the SAVE operation as well as the corresponding SYN1 checkpoints indicate the files or parts of files contained on each volume.

## Result

The result of this function is a database containing the specified files and the checkpoint and security files with the same physical status they had at the end of the ADASAV SAVE operation.

This operation is equivalent to a RESTONL (database), but excludes any files not specified in the FILES parameter.

### Important:

Any existing database in the target Associator and Data Storage datasets is completely overwritten and any files in that database are lost.

## Syntax

```

ADASAV RESTONL GCB [BUFNO = {number-of-buffers | 1}]
                   [CLOGDEV = {CLOG1-device-type | ADARUN-device}]
                   [DRIVES = {count | 1}]
                   [EXCLUDE = file-list]
                   [FILES = file-list]
                   [NEWDBID = new-database-id]
                   [NEWDBNAME = new-database-name]
                   [NOUSERABEND]
                   [OVERWRITE]
                   [PLOGDEV = {PLOG-device-type | ADARUN-device}]
                   [PLOGNUM = PLOG-number [, SYN1 = PLOG-block-number]]
                   [TEST]

```

# Optional Parameters and Subparameters

## **BUFNO: Count of Buffers Per Drive**

The BUFNO value, multiplied by the DRIVES parameter value, allocates fixed buffers for RESTONL operation. A value of 2 or 3 usually provides optimum performance; up to 255 is possible. A value greater than 5, however, provides little advantage and allocates a lot of space. The default is 1 (one buffer per drive).

## **CLOGDEV: Command Log Device Type**

The device type of the command log (CLOG). This parameter is required only if the device type of the CLOG is different from that specified by the ADARUN DEVICE parameter.

## **DRIVES: Tape Drives for Parallel Restore**

DRIVES is the number of tape drives to be used for parallel restore processing. The number can range 1 to 8, inclusively; the default is 1.

## **EXCLUDE: Exclude Specified Files from Restore**

EXCLUDE lists the numbers of the files to be excluded from the restore operation; that is, the files that are not to be restored.

No files specified in the EXCLUDE parameter will exist in the restored database.

All files specified in the EXCLUDE parameter must exist on the save dataset.

The parameter is optional: if not specified, no files are excluded. A file number may be listed only once.

The EXCLUDE parameter is provided for use in recovery jobs built by the Adabas Recovery Aid (ADARAI).

## **FILES: Files to Be Restored**

FILES specifies the file or files to be included in the database restore operation. The checkpoint and security files (if any) are always restored. If the specified file is a component file of an Adabas expanded file, all other component files of the expanded file must also be specified here. If a specified file is coupled to other files, the coupled files must also be specified.

## **NEWDBID: New ID for Restored Database**

NEWDBID may be used to assign a different database ID to the restored database. The ID can be in the range 1-65,535; if Adabas Online System Security is installed, DBID 999 is reserved.

If NEWDBID is specified, the ADARUN DBID parameter must specify the ID of the database on the SAVE dataset.

No Adabas nucleus may be active with the DBID specified on NEWDBID.

## **NEWDBNAME: New Database Name**

NEWDBNAME assigns a new name to the restored database. If NEWDBNAME is not specified, the restored database keeps its old name.

**NOUSERABEND: Termination without ABEND**

When an error is encountered while the function is running, the utility prints an error message and terminates with user ABEND 34 (with a dump) or user ABEND 35 (without a dump).

If NOUSERABEND is specified, the utility will *not* ABEND after printing the error message. Instead, the message "utility TERMINATED DUE TO ERROR CONDITION" is displayed and the utility terminates with condition code 20.

**OVERWRITE: Overwrite Existing Database**

If the restore operation is to overwrite an existing database, the OVERWRITE parameter must be specified.

No Adabas nucleus may be active on the database to be overwritten.

**PLOGDEV: Protection Log Device Type**

The device type of the dual/multiple protection log (PLOG). This parameter is required only if the device type of the PLOG is different from that specified by the ADARUN DEVICE parameter.

**PLOGNUM: Protection Log Number**

PLOGNUM specifies the number of the nucleus protection log used while the ADASAV SAVE operation was active (see output listing of the online SAVE function). Sequential protection (SIBA) logs from more than one nucleus session can be concatenated. ADASAV skips protection logs with a number lower than the PLOGNUM value. The PLOGNUM parameter is optional.

If PLOGNUM is not specified, ADASAV automatically determines the correct value from information stored in the SAVE dataset.

**SYN1: Beginning Block Number**

SYN1 specifies the protection log block number containing the SYN1 checkpoint at which the corresponding SAVE operation began (see output listing of the online SAVE function). This parameter is optional.

If SYN1 is not specified, ADASAV automatically determines the correct value from information stored in the SAVE dataset.

**TEST: Test Syntax**

The TEST parameter tests the operation syntax without actually performing the operation. Only the syntax of the specified parameters can be tested; not the validity of values and variables.

## Examples

### Example 1:

```
ADASAV RESTONL GCB
```

Restore the database GCB saved when the nucleus was active (online). The checkpoint and security files are also restored. ADASAV determines the protection log number and SYN1 block number required for the restore operation automatically.

### Example 2:

```
ADASAV RESTONL    GCB,FILES=3,4,5,OVERWRITE  
ADASAV            PLOGNUM=15,SYN1=20
```

Files 3, 4 and 5 as well as the checkpoint and security files are restored. The protection log number is 15 and the block containing the SYN1 checkpoint is 20. The old database is to be overwritten.